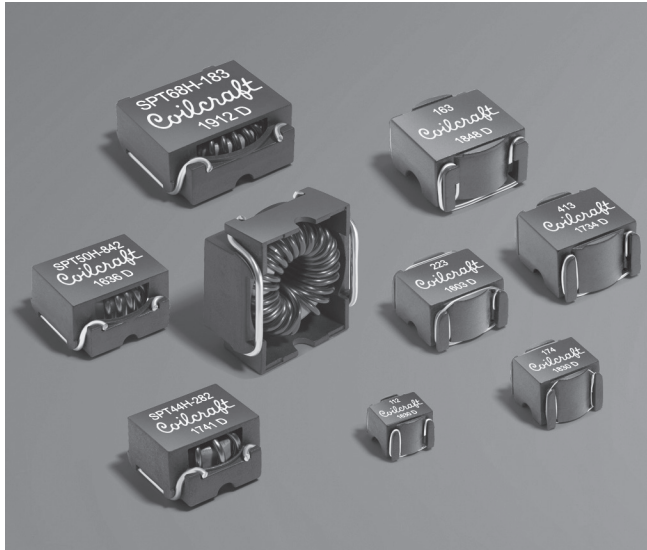




Toroid Power Inductors – SPT Series



- Toroid winding eliminates stray electromagnetic emissions
- Two versions: Standard, current ratings up to 8 Amps; High current, with ratings up to 12.2 Amp

Core material Powered iron

Core and winding loss See www.coilcraft.com/coreloss

Terminations RoHS compliant tin-silver over copper. Other terminations available at additional cost.

Ambient temperature -40°C to +85°C

Maximum part temperature: The part temperature should not exceed +85°C (ambient + self-heating). Prolonged operation above +85°C may result in a permanent increase in core loss and part failure due to thermal aging of the core material.

Storage temperature Component: -40°C to +85°C. Packaging: -40°C to +80°C

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Failures in Time (FIT) / Mean Time Between Failures (MTBF) 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

Part number ¹	L ² ±20% (µH)	DCR max (mOhm)	SRF typ ³ (MHz)	Isat (A) ⁴			Irms (A) ⁵		Body size
				10% drop	20% drop	30% drop	20°C rise	40°C rise	
Standard series									
SPT20L-112ML_	1.1	16.0	130	3.2	4.8	6.7	4.7	6.1	1
SPT38L-382ML_	3.8	9.3	61	4.0	6.1	8.2	6.5	8.5	3
SPT30L-522ML_	5.2	24.2	47	2.8	4.2	5.8	4.2	5.7	2
SPT20L-702ML_	7.0	95.0	37	1.2	1.8	2.5	1.8	2.2	1
SPT38L-752ML_	7.5	22.8	50	2.7	4.2	5.8	4.4	6.5	3
SPT44L-792ML_	7.9	16.2	26	3.5	5.4	7.3	5.6	7.5	4
SPT30L-123ML_	12	54.7	23.9	1.9	2.8	3.7	2.5	3.3	2
SPT44L-143ML_	14	23.6	15.6	2.8	4.1	5.7	4.2	5.7	4
SPT50L-163ML_	16	19.7	14.3	2.8	4.2	5.8	5.1	7.1	5
SPT38L-223ML_	22	63	18.1	1.5	2.3	3.1	3.1	3.8	3
SPT20L-233ML_	23	320	13.5	0.6	1.0	1.3	0.71	1.0	1
SPT50L-263ML_	26	32	11.2	2.3	3.4	4.6	4.3	6.0	5
SPT30L-353ML_	35	166	11.0	1.1	1.6	2.2	1.3	1.6	2
SPT44L-413ML_	41	85	8.30	1.6	2.3	3.1	2.3	3.1	4
SPT38L-733ML_	73	290	10.8	0.81	1.3	1.7	1.1	1.5	3
SPT50L-733ML_	73	133	4.56	1.4	2.0	2.7	2.6	3.5	5
SPT30L-174ML_	170	640	3.84	0.44	0.68	0.95	0.70	0.88	2
SPT38L-294ML_	290	657	2.87	0.41	0.64	0.90	0.70	1.0	3
SPT50L-564ML_	560	550	1.54	0.37	0.59	0.81	0.70	0.90	5
SPT38L-674ML_	670	1200	1.38	0.26	0.40	0.55	0.48	0.65	3
SPT44L-115ML_	1100	1908	1.35	0.25	0.41	0.57	0.57	0.63	4
SPT50L-205ML_	2000	1932	1.35	0.18	0.29	0.41	0.56	0.70	5
High current series									
SPT44H-282ML_	2.8	4.6	74	5.8	8.8	12.2	9.7	13.6	6
SPT44H-422ML_	4.2	6.6	61	5.0	7.8	10.9	8.8	11.8	6
SPT50H-652ML_	6.5	7.2	27.3	4.6	6.7	9.1	8.6	11.7	7
SPT50H-842ML_	8.4	8.5	22.8	4.3	6.4	8.5	7.1	9.8	7
SPT68H-113ML_	11	8.2	25.9	4.8	7.2	9.9	8.3	11.2	8
SPT68H-183ML_	18	12.5	12.0	3.9	5.7	7.7	6.8	9.2	8

1. Please specify **termination** and **packaging** codes:

SPT20L-112MLD

Termination: L = RoHS compliant tin-silver over copper.

Special order:

T = RoHS tin-silver-copper (95.5/4/0.5) or S = non-RoHS tin-lead (63/37).

Packaging: D = 13" machine-ready reel

EIA-481 embossed plastic tape.

Body size 1: 750 per full reel.

Body sizes 2-3: 350 per full reel.

Body size 4: 300 per full reel.

Body sizes 5-6: 250 per full reel.

Body sizes 7-8: 200 per full reel.

Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

B = Less than full reel

In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to D

2. Inductance tested at 100 kHz, 0.1 Vrms on Agilent/HP 4192A.
3. SRF measured on Agilent/HP 8753ES network analyzer.
4. DC current that causes the specified inductance drop from its value without current.
5. Current that causes the specified temperature rise from 25°C ambient.
6. Electrical specifications at 25°C. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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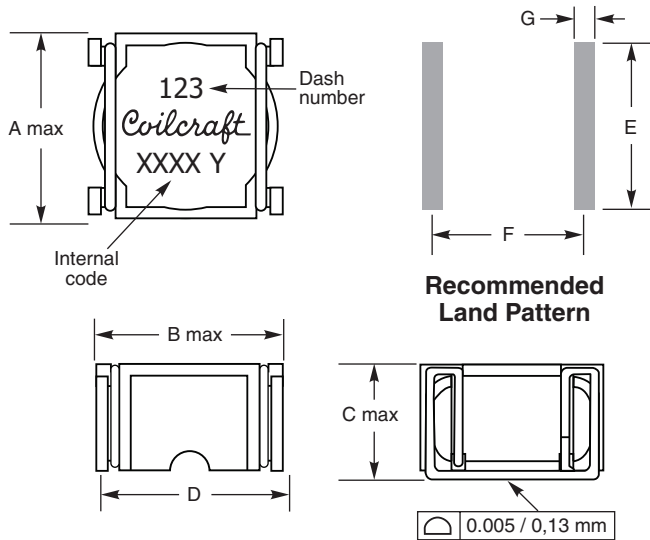
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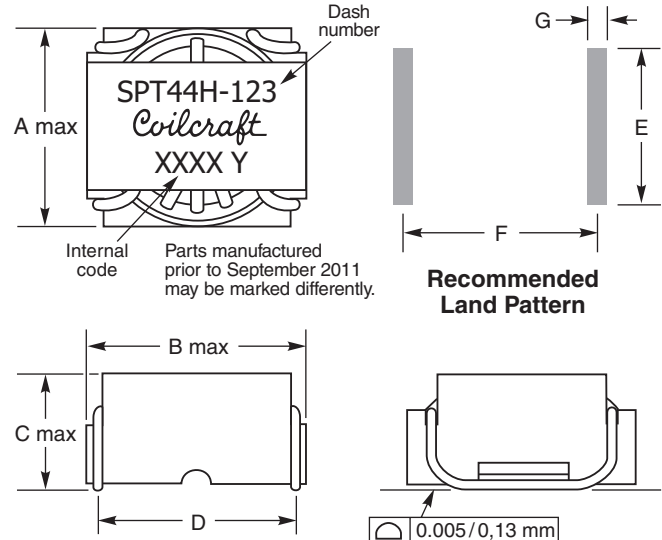


Toroid Power Inductors – SPT Series

Body size 1 - 5



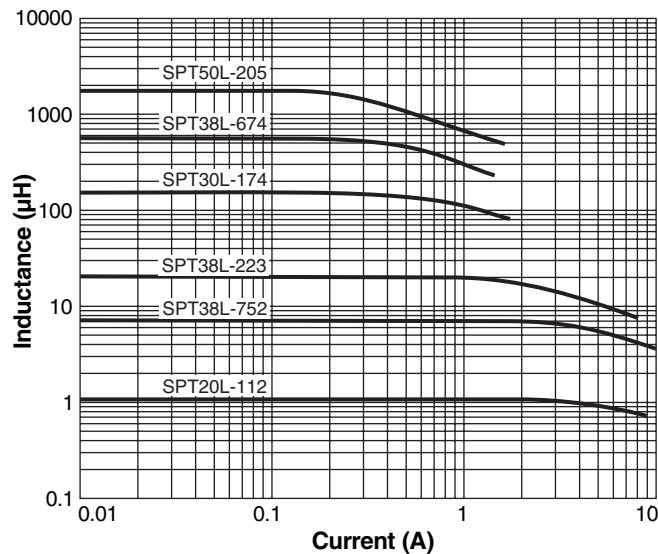
Body size 6 - 8



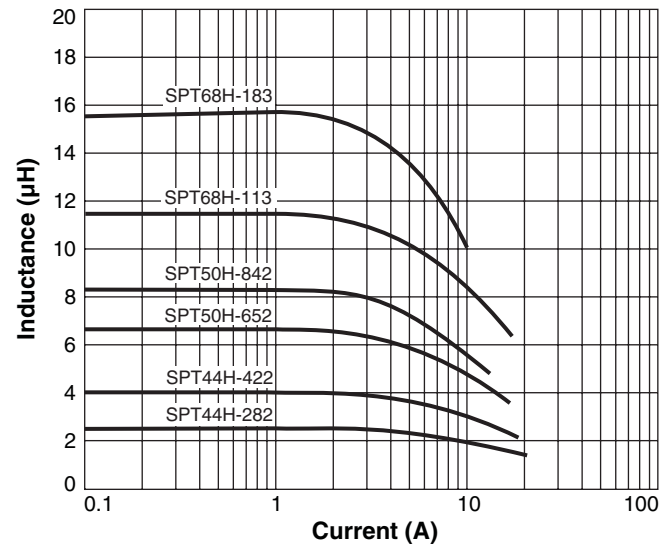
Size	A max	B max	C max	D ¹	E ²	F ²	G	Weight (g)
1	0.34/8,64	0.34/8,64	0.28/7,00	0.26/6,60	0.30/7,62	0.27/6,86	0.06/1,52	0.47-0.54
2	0.44/11,05	0.44/11,18	0.37/9,50	0.35/8,89	0.40/10,16	0.36/9,14	0.06/1,52	1.42-1.59
3	0.56/14,22	0.56/14,35	0.37/9,50	0.45/11,43	0.52/13,21	0.46/11,68	0.06/1,52	2.73-3.34
4	0.59/14,99	0.61/15,62	0.41/10,50	0.50/12,70	0.55/13,97	0.51/12,95	0.06/1,52	3.57-4.08
5	0.67/17,02	0.70/17,78	0.41/10,50	0.58/14,73	0.62/15,75	0.59/14,99	0.06/1,52	5.19-5.97
6	0.66/16,89	0.66/16,89	0.41/10,50	0.56/14,22	0.49/12,45	0.57/14,48	0.08/2,03	4.23-4.48
7	0.74/18,80	0.74/18,80	0.41/10,50	0.63/16,00	0.56/14,22	0.64/16,26	0.08/2,03	6.18-6.53
8	0.94/23,88	0.94/23,88	0.41/10,50	0.82/20,83	0.70/17,78	0.83/21,08	0.08/2,03	11.12-11.63

Dimensions are in inches / mm. Unless specified, tolerance is ± 0.009/0,25.
 1. ±0.030/0,76
 2. ±0.005/0,13

Typical L vs Current (Standard series)



Typical L vs Current (High current series)



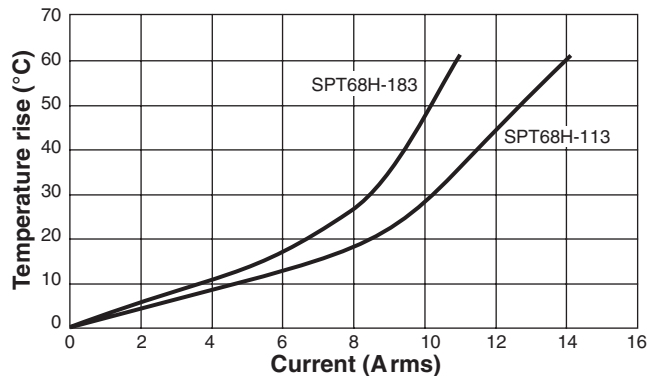
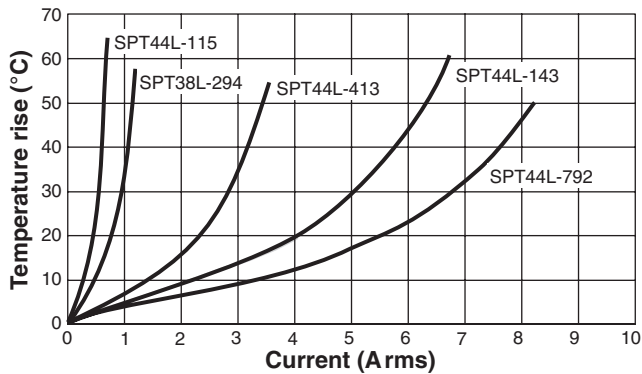
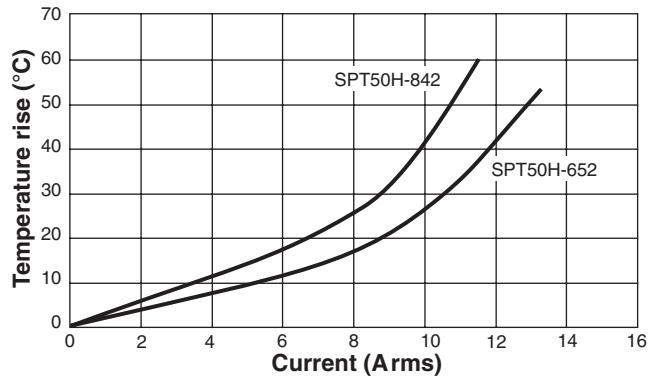
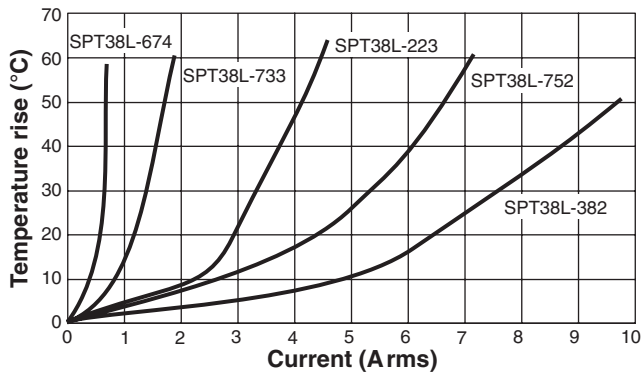
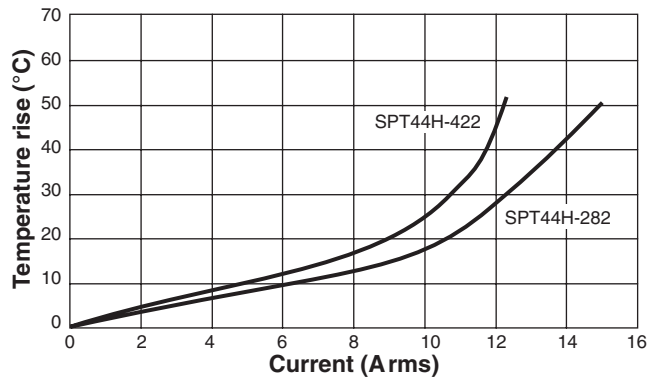
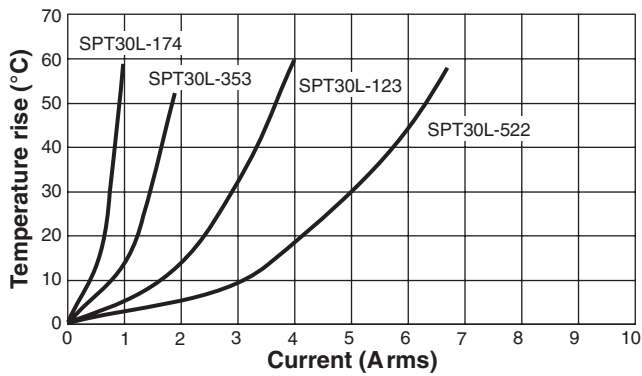
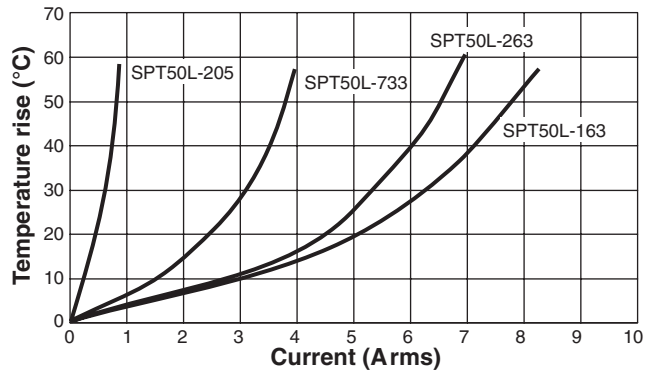
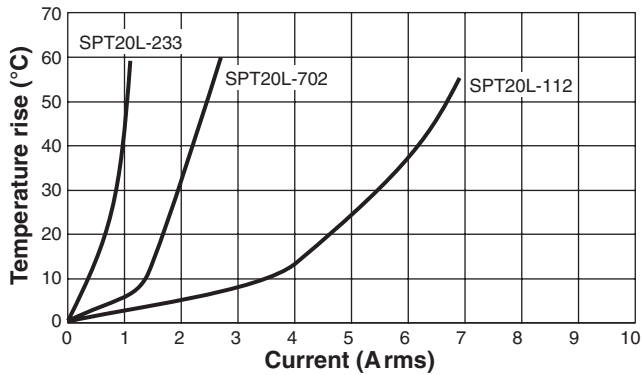
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Toroid Power Inductors – SPT Series

Typical Temperature Rise vs Current*



* Measured at 25°C ambient.

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